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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,396

10/14/2003

Keiichiro Ishihara

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EXAMINER

BECKLEY, JONATHAN R

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

07/03/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/686,396	Applicant(s) ISHIHARA, KEIICHIRO	
	Examiner JONATHAN R. BECKLEY	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,9,10,33,35 and 67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,9,10,33,35 and 67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/19/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 7, 9-10, 33 and 67 are rejected under 35 U.S.C. 102(b)** as being unpatentable by **Minakuchi et al. (US Patent 6,064,504)**.

3. Regarding **Claim 1, Minakuchi** teaches a two-dimensional scanning apparatus (**scanning optical device; Column 1, lines 45-46; See Figures 1 to 4; Noted: the X and Y directions shown in proportion to scanning device, the directions of the scan and the directions of the lights**) comprising:

deflector (**polygonal mirror, 180**) for two-dimensionally deflecting a light beam from a light source (**Column 1, lines 47-48; Column 2, lines 62-64; See Figure 4; Noted: the X and Y directions shown in proportion to the deflected light from the polygonal mirror**); and

an optical system (**f*theta lens, 190**) for directing the light beam deflected by said deflector onto a surface (**photoconductive drum, 210**) to be scanned (**Column 1, lines 48-49; Column 5, lines 8-20**), wherein said optical system includes:

an optical element which is tiled and/or shifted (**Column 7, lines 26-30**); and

no reflecting surface having optical power (**Column 1, lines 53-60; See Figure 4; Noted the direction of the light path**).

Regarding **Claim 7, Minakuchi** further discloses a control unit for displaying an image on the surface to be scanned, by controlling said deflector (**Column 2, lines 7-18**).

Regarding **Claim 9, Minakuchi** teaches a two-dimensional scanning apparatus (**scanning optical device; Column 1, lines 45-46; See Figures 1 to 4; Noted: the X and Y directions shown in proportion to scanning device, the directions of the scan and the directions of the lights**) comprising:

deflector (**polygonal mirror, 180**) for two-dimensionally deflecting a light beam from a light source (**Column 1, lines 47-48; Column 2, lines 62-64; See Figure 4; Noted: the X and Y directions shown in proportion to the deflected light from the polygonal mirror**); and

a scanning optical system (**f*theta lens, 190**) for directing the light beam deflected by said deflector onto a surface (**photoconductive drum, 210**) to be scanned (**Column 1, lines 48-49; Column 5, lines 8-20**),

said scanning optical system including an optical surface which is tilted at an angle larger than a maximum angle of view (**predetermined image forming range**) relative to a central axis of a two-dimensional deflection range of the light beam

deflected by said deflector (**Column 5, lines 20 -67; See Figure 4; and Column 7, lines 11-30; See Figure 6**).

Regarding **Claim 10, Minakuchi** teaches a two-dimensional scanning apparatus (**scanning optical device; Column 1, lines 45-46; See Figures 1 to 4; Noted: the X and Y directions shown in proportion to scanning device, the directions of the scan and the directions of the lights**) comprising:

deflector (**polygonal mirror, 180**) for two-dimensionally deflecting a light beam from a light source (**Column 1, lines 47-48; Column 2, lines 62-64; See Figure 4; Noted: the X and Y directions shown in proportion to the deflected light from the polygonal mirror**); and

a scanning optical system (**f*theta lens, 190**) for directing the light beam deflected by said deflector onto a surface (**photoconductive drum, 210**) to be scanned (**Column 1, lines 48-49; Column 5, lines 8-20**),

wherein the surface to be scanned is tilted relative to a central axis of two-dimensional deflection range of the light beam deflected by the deflector (**Column 6, lines 51 – Column 7, lines 30**),

wherein said scanning optical system includes an optical surface which is tilted (**Column 7, lines 26-30**) relative to the central axis of the two-dimensional deflection range of the light beam deflected by said deflector (**Column 1, lines 13-18, See Figures 7a and 7b**), and

wherein a direction in which the surface **(image plane)** to be scanned is tilted relative to the central axis and a direction in which the optical surface is tilted relative to the central axis are the same direction **(Column 6, lines 51 – Column 7, lines 30)**,

Regarding **Claim 33, Minakuchi** further discloses a control unit for displaying an image on the surface to be scanned by controlling said deflector **(Column 2, lines 7-18)**.

Regarding **Claim 67, Minakuchi** further discloses a control unit for displaying an image on the surface to be scanned, by controlling said deflector **(Column 2, lines 7-18)**.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 35 is rejected under 35 U.S.C. 103(a)** as being unpatentable over **Minakuchi et al. (US Patent 6,064,504)**.

8. Regarding **Claim 35, Minakuchi** does disclose a light source for supplying light beams and wherein an image is formed on the surface to be scanned by causing the

light beams to be incident on said deflector sequentially and/or simultaneously (**Column 1, lines 47-48 and Column 2, lines 7-18**).

However, **Minakuchi** does not disclose the light beams being colour light beams.

Official notice is taken that it is well known in the art that color light beams, i.e., RGB, are known to use for projecting a color image.

Therefore, at the time of invention, it would have been well known to a person of ordinary skill in the art to use color light beams directed from a light source as light beams to form the image due to the deflector on the surface.

Response to Arguments

Applicant's arguments filed 02/19/2008 have been fully considered but they are not persuasive.

With respect to the applicant's arguments and remarks regarding amended independent Claims 1 and 10, Minakuchi *does not disclose the two-dimensional scanning apparatus as claimed... there is simply no indication in this reference that the deflector is a two-dimensional deflector as recited in claim 1 of the present invention...* has been considered by Examiner. With respect to the applicant's arguments and remarks regarding independent Claims 9....Minakuchi has *no such teachings...* has been considered by Examiner. With respect to the applicant's arguments and remarks regarding amended independent Claims 10, regarding *"a direction in which the surface*

to be scanned is tilted relative to the central axis and a direction in which the optical surface is tilted relative to the central axis are the same direction" and that Minakuchi *fails to show or suggest this aspect of the present invention...* has been considered by Examiner.

In reply: Minakuchi does teach and suggest each and every claimed element in regard to Claims 1, 9, and 10. 1) The applicant argues there is no two-dimensional scanning apparatus in Minakuchi. Minakuchi is clearly at least a two-dimensional scanning apparatus based upon the disclosure of Minakuchi. Minakuchi in each of his drawings even discloses a two-dimensional axis showing the direction of the scan. Minakuchi also discloses several references to disclosing direction of scanning in the X, Y, and Z directions in different embodiments of the invention. 2) The applicant argues that Minakuchi has no angle of the optical surface which is larger than the maximum field angle. Examiner takes the applicant's arguments to be in reference to claim 9 which states an optical surface which is tilted at an angle larger than a maximum angle of view. Minakuchi discloses this in his written disclosure states that a mirror is placed outside of an edge of the main scanning range, but outside of a predetermined image forming range (not shown). The mirror is positioned in the optical path from the surface to the fold mirror meaning the optical system lens is tilted at an angle outside of the maximum view in order to contact the mirror. 3) The applicant argues the surface and the optical surface of Minakuchi are not tilted and especially not tilted in the same direction. An example is given and shown in Figure 6 of Minakuchi that shows the surface is tilted

and corresponds with the optical surface of the tilted lens to have a desired image position. The examiner has extended the citations using the same rejection with further explanation provided to explain the reasoning of anticipation rejection to the applicant. For this, it can clearly be understood that Minakuchi teaches the image processing system of the applicant.

Noted: The applicant may not have understood or appreciated the invention of Minakuchi from the previous citations. The examiner has provided further explanations and citations to where Minakuchi anticipates the applicant and gives examples of how the invention of Minakuchi can be used to anticipate and show obviousness on the current applicant. Therefore, independent Claims 1, 9 and 10 respectfully stand rejected.

With respect to Claims 1, 7, 9, 10, 33, 35, and 67, it is respectfully submitted that these claims are rejected by virtue of depending from rejected independent claims or being of the same issues addressed above. Therefore Claims 1, 7, 9, 10, 33, 35, and 67 stand respectfully rejected.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN R. BECKLEY whose telephone number is (571)270-3432. The examiner can normally be reached on Mon-Fri: 7:30-5:00 EST (Alternate Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TWYLER L. HASKINS can be reached on (571)272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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